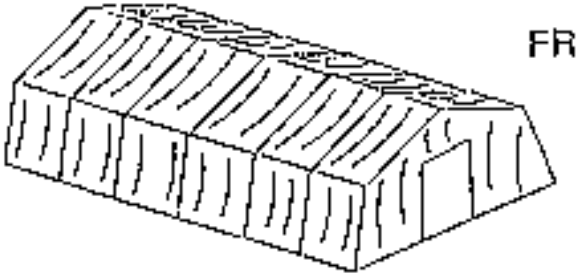
LCAC FSC Action Item #18-13

Potential Uses of PTM Develop Guidelines

CAPT Jeffrey M. Young MC USN
NOMI det SWMI

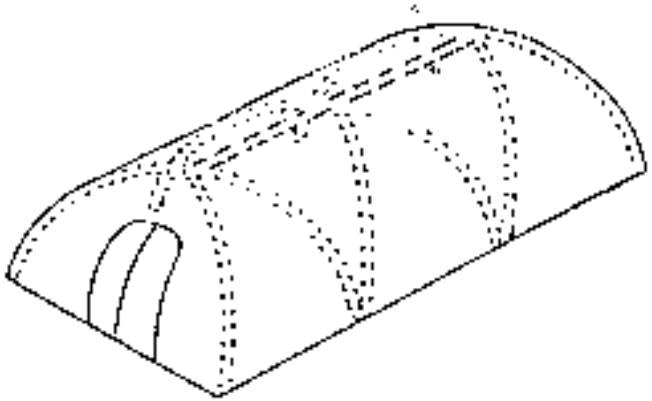
1992-3 - EARLY YEARS & IDEAS

EXISTING SMALL SHELTER CONCEPTS



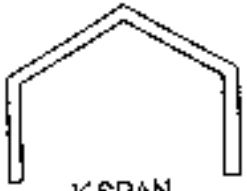
FRAME-SUPPORTED FABRIC SHELTER

THE NOISE WOULD BE EXCESSIVE,MINIMAL FOD PROTECTION AND WOULD REQUIRE MANY PARTS FOR SEATS AND SAFETY REQUIREMENTS.

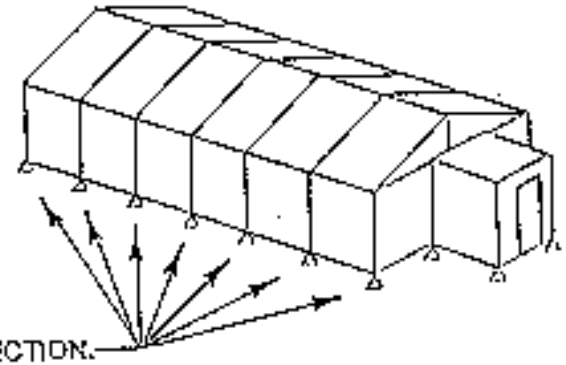


AIR BEAM FABRIC SHELTER

MUST BE SEMICIRCULAR AND HAS A FABRIC FLOOR. VERY SUSCEPTIBLE TO TENSION WITH MINOR CHANGE IN AMBIENT TEMPERATURE. WILL NOT WITHSTAND LCAC ENVIRONMENT.



K SPAN



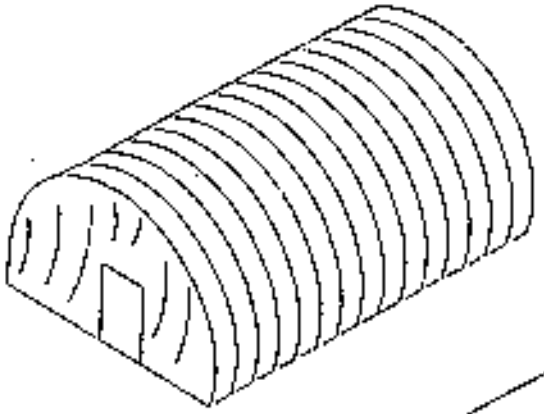
FRAMES AT EACH INTERSECTION.

AIRMOBILE MERWS SHELTER

THIS TYPE OF MODULAR EXTENDIBLE RIGID WALL SHELTER (MERWS) HAS A RIGID FRAME AT EACH SET OF PANELS INTERSECTION. THE FRAMES ARE FIXED - ALL ARE HIP TYPE ROOF.

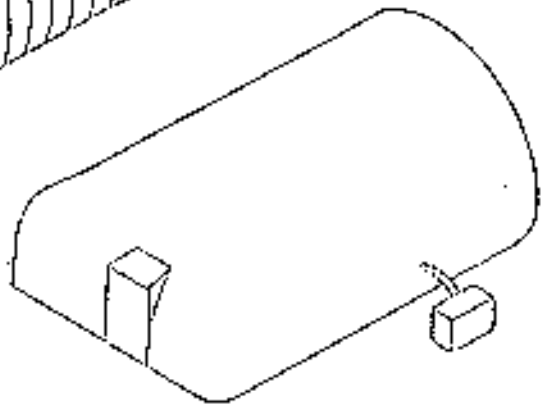
EARLY IDEAS

EXISTING SMALL SHELTER CONCEPTS (CONT'D)



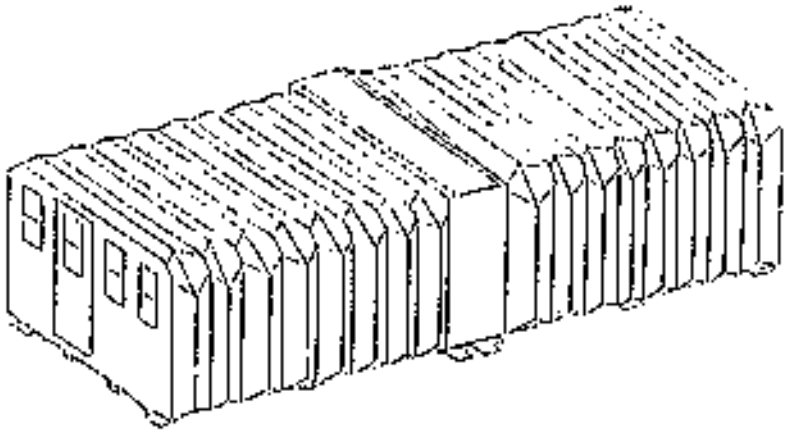
DUAL WALL INFLATABLE FABRIC SHELTER

PASSIVE AIR SHELTER HAS A FABRIC FLOOR AND WILL ALWAYS BE SEMICIRCULAR.



AIR-SUPPORTED FABRIC SHELTER

ACTIVE AIR UNITS REQUIRE A CONTINUOUS AIR SUPPLY. EGRESS AND ENTRANCE REQUIRE ONE PERSON AT A TIME TO MINIMIZE AIR LOSS. FABRIC FLOOR.



ACCORDION BOX SHELTER

THE FOLDED ACCORDION SHELTER IS DIFFICULT TO HANDLE WHEN EXTENDING AND RETRACTING. THE FOLD AREAS AT THE UPPER CORNERS ARE FOUND TO BE UNRELIABLE. THERE IS NO FURTHER WORK BEING DONE ON THIS TYPE DEVELOPMENT.

The PTM

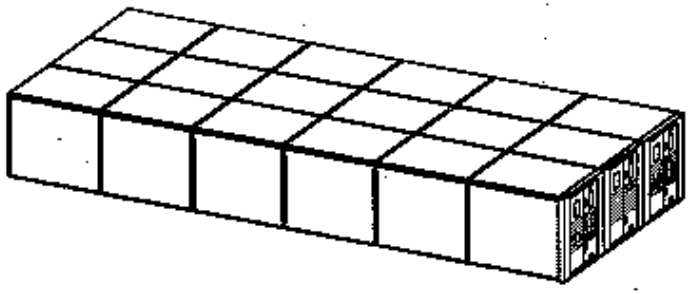


Figure 1-1. Full Personnel Transport Module

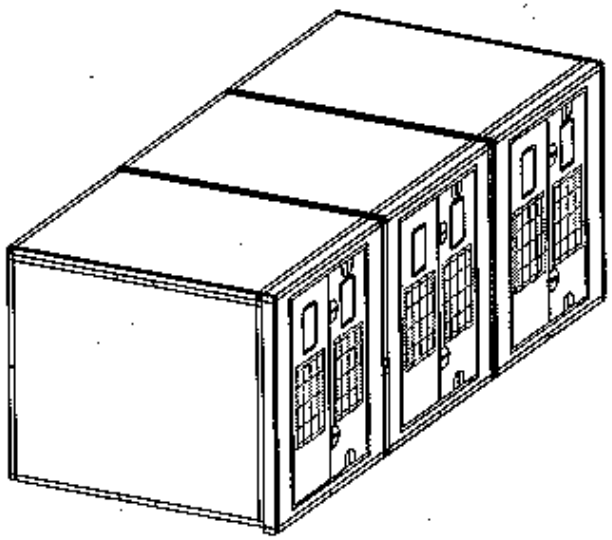
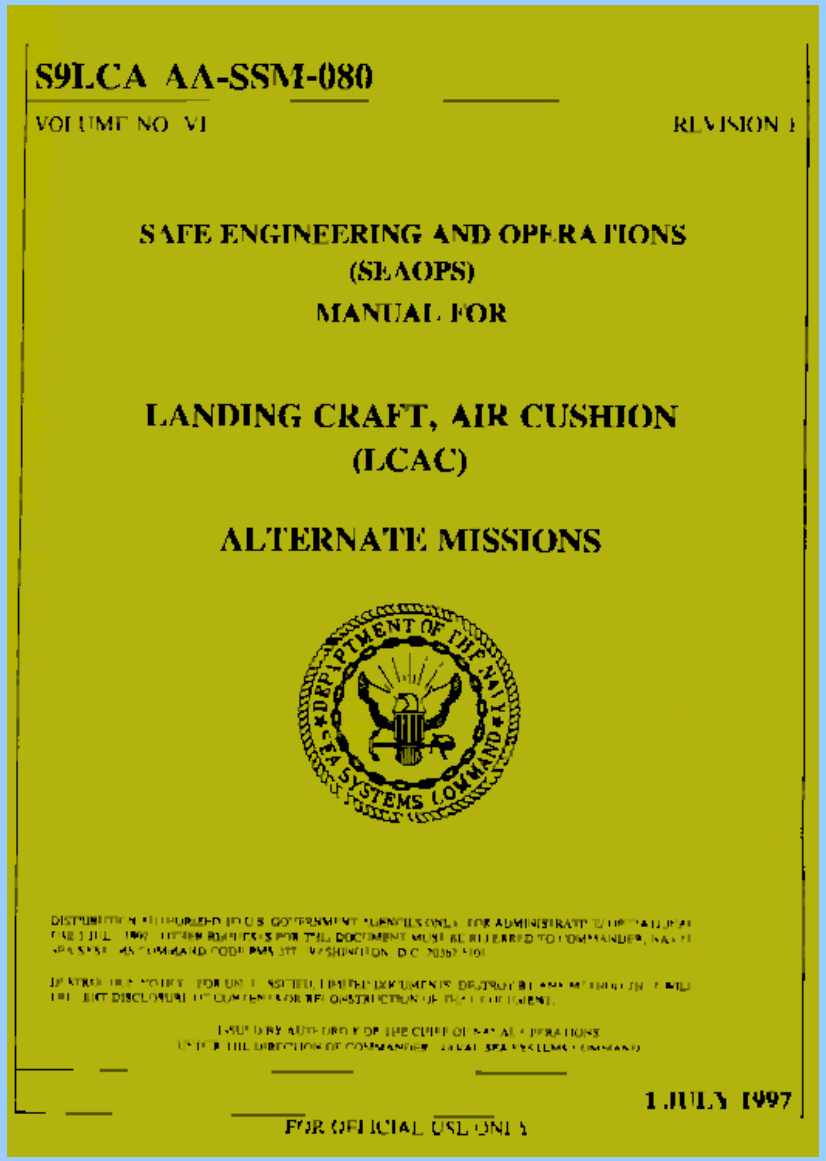


Figure 1-2. Single Stand-Alone Unit

Safe Engineering and Operations (SEAOPS)



S9LCA AA-SSM-080

VOLUME NO VI REVISION 1

SAFE ENGINEERING AND OPERATIONS
(SEAOPS)
MANUAL FOR

LANDING CRAFT, AIR CUSHION
(LCAC)

ALTERNATE MISSIONS

DEPARTMENT OF THE NAVY · NAVAL SEA SYSTEMS COMMAND

1 JULY 1997

FOR OFFICIAL USE ONLY

Two Chapters

- PTM
- Lane-Breaching Operations

Deployment experience to date, with suggestions from After-action reports on future operational implementation

- Minimal
- Published data scarce
- Has the PTM ever been used in a medical mission or exercise?

PTM Medical Tests - Sept 98

- ACU5
- 1st MARDIV
- 1st Med Bn
- CPG3
- SWMI
- Coastal Systems Station (Panama City)
- Combat Camera
- 55 Marines
- 10 HM
- 5 Evaluators
- Industrial Hygienist
- Stopwatches
- Decibel meters
- Cameras

What were the questions?

- How long does it take to load 54 litters into a PTM?
- What is the best configuration for litters, seats?
- What difficulties are encountered carrying litters onto the LCAC PTM?

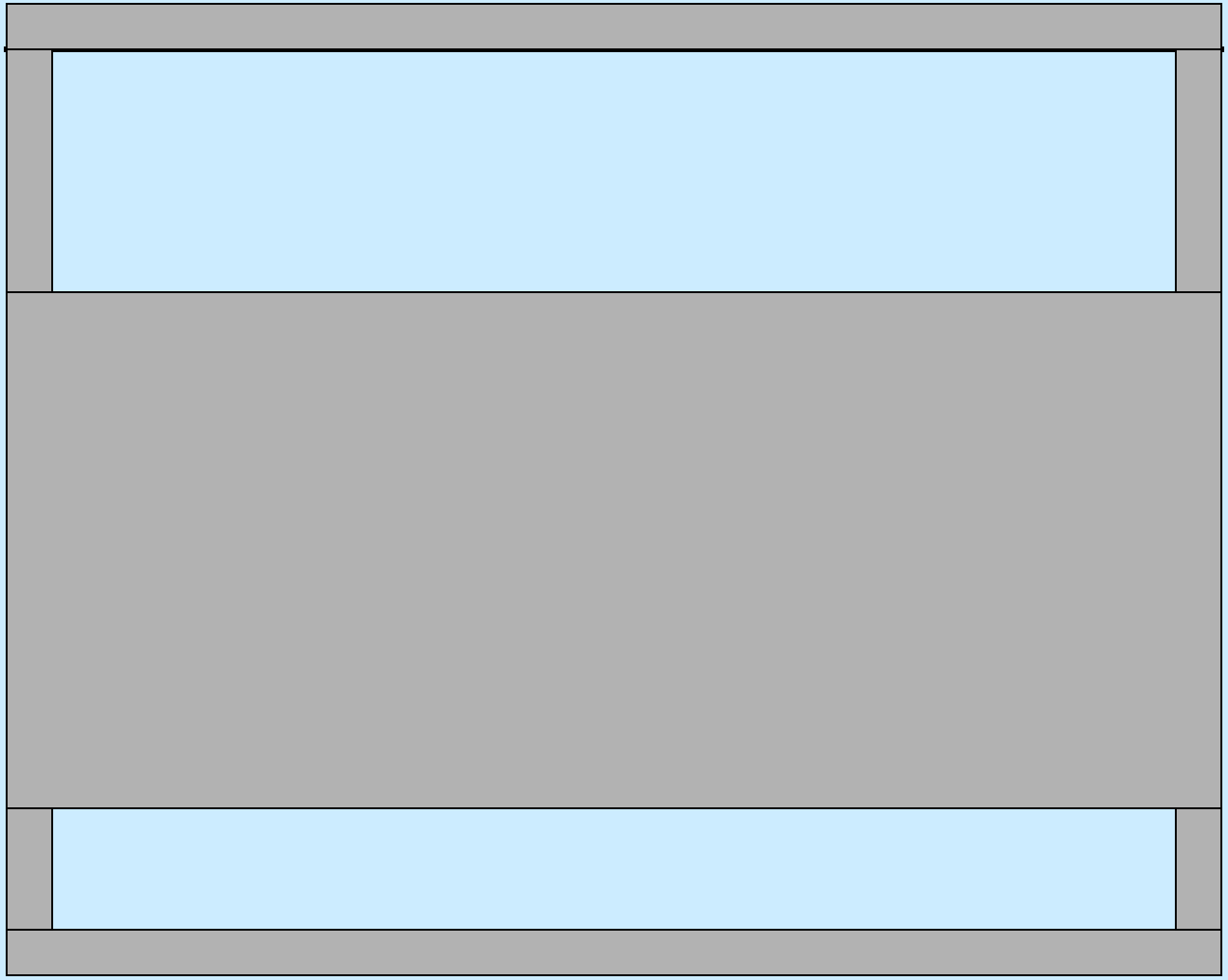
Additional questions?

- What are the safety issues?
- What environmental problems will be encountered?
- What additional equipment is necessary?

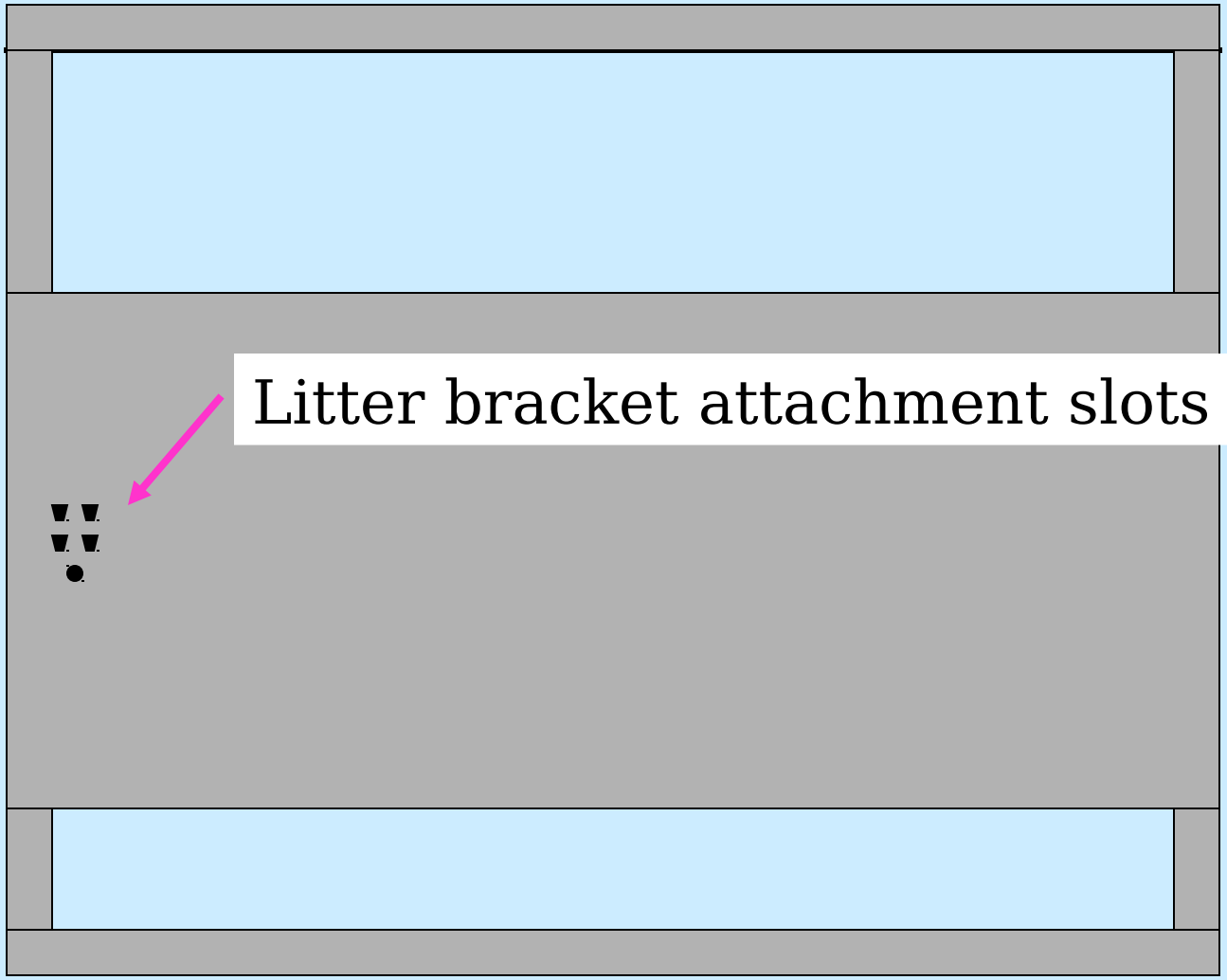
The Equipment

- Interior Panel
- Mounting Brackets
- Load-bearing Stretcher Strap
- Intrinsic Lighting
- Fans
- Comm
- Electricity

Interior Panel

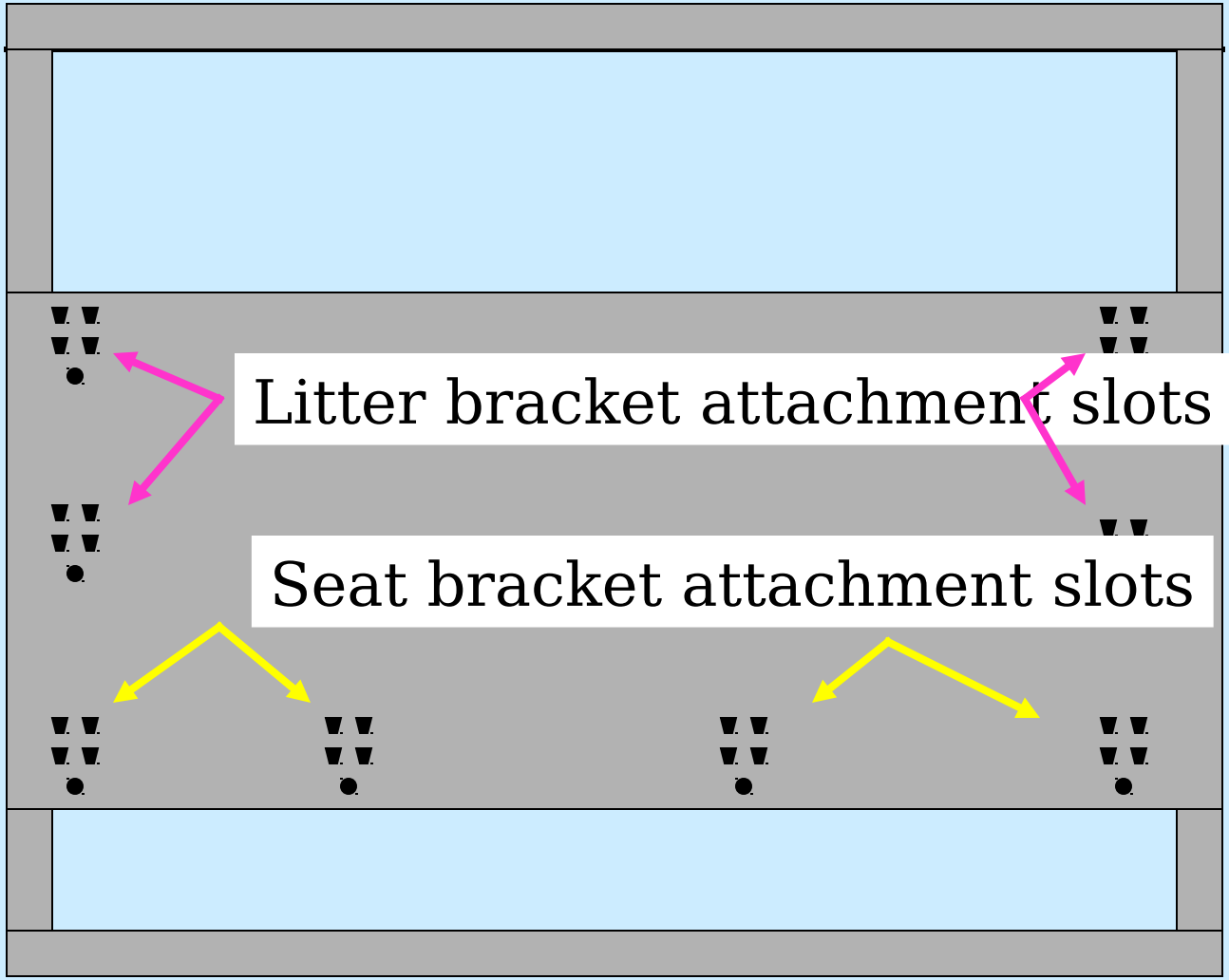


Interior Panel



Bulkhead Seat/Stretcher Bracket

Interior Panel



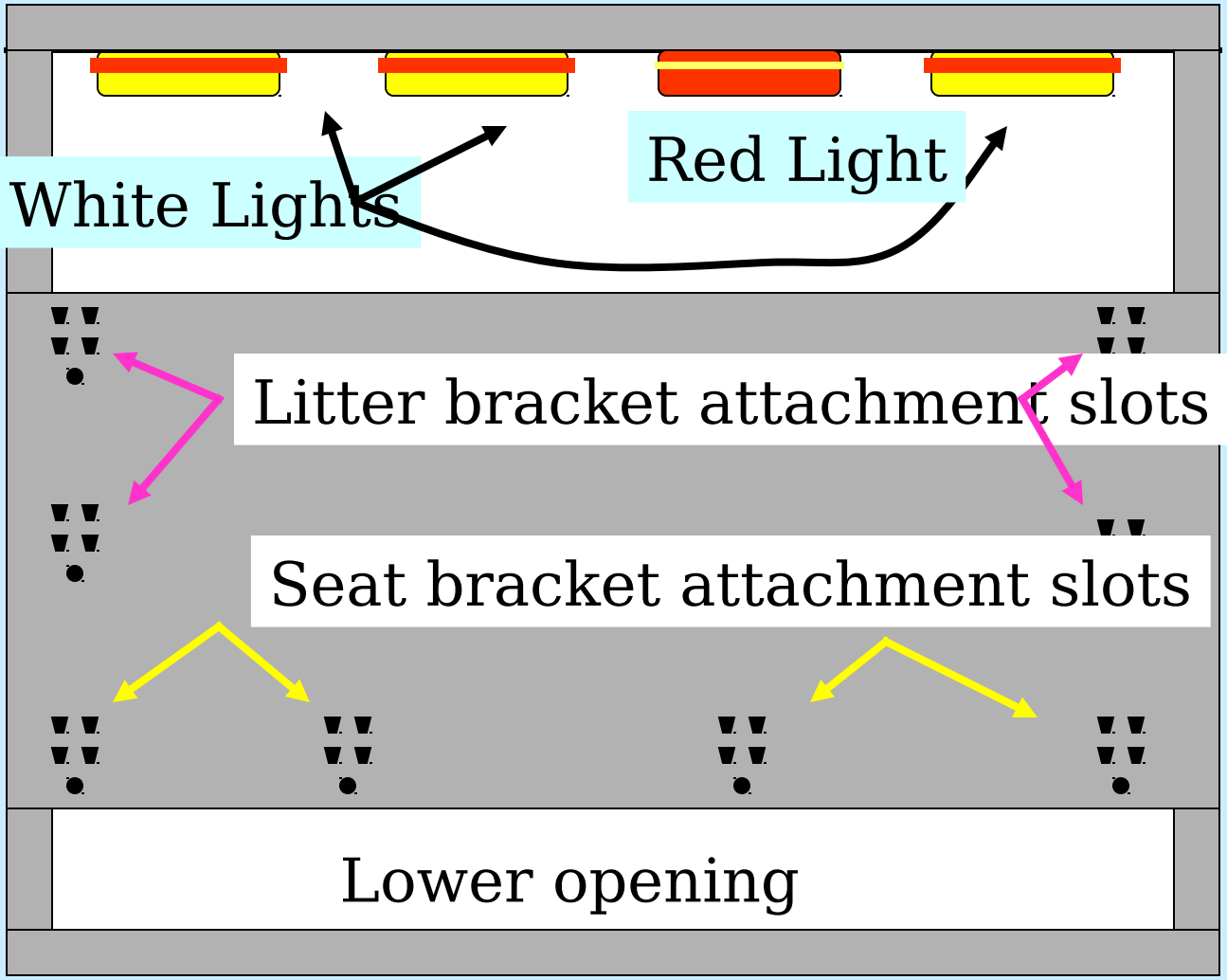
Passenger seating:

Installing and removing

Training Issue:
Stretcher bearer need training and familiarity to do this job effeciently.

Training Time: 30-60 min.

Interior Panel



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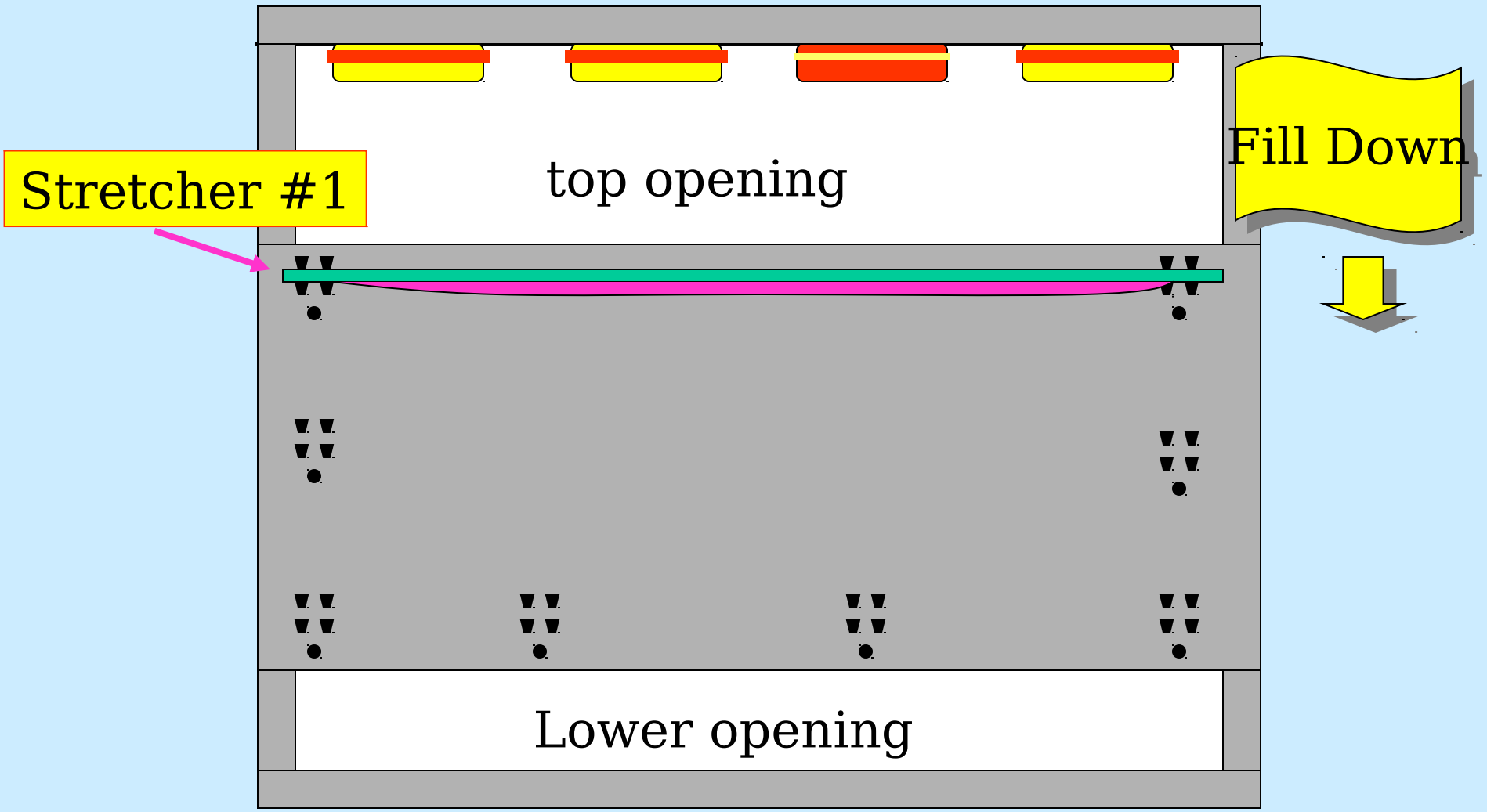

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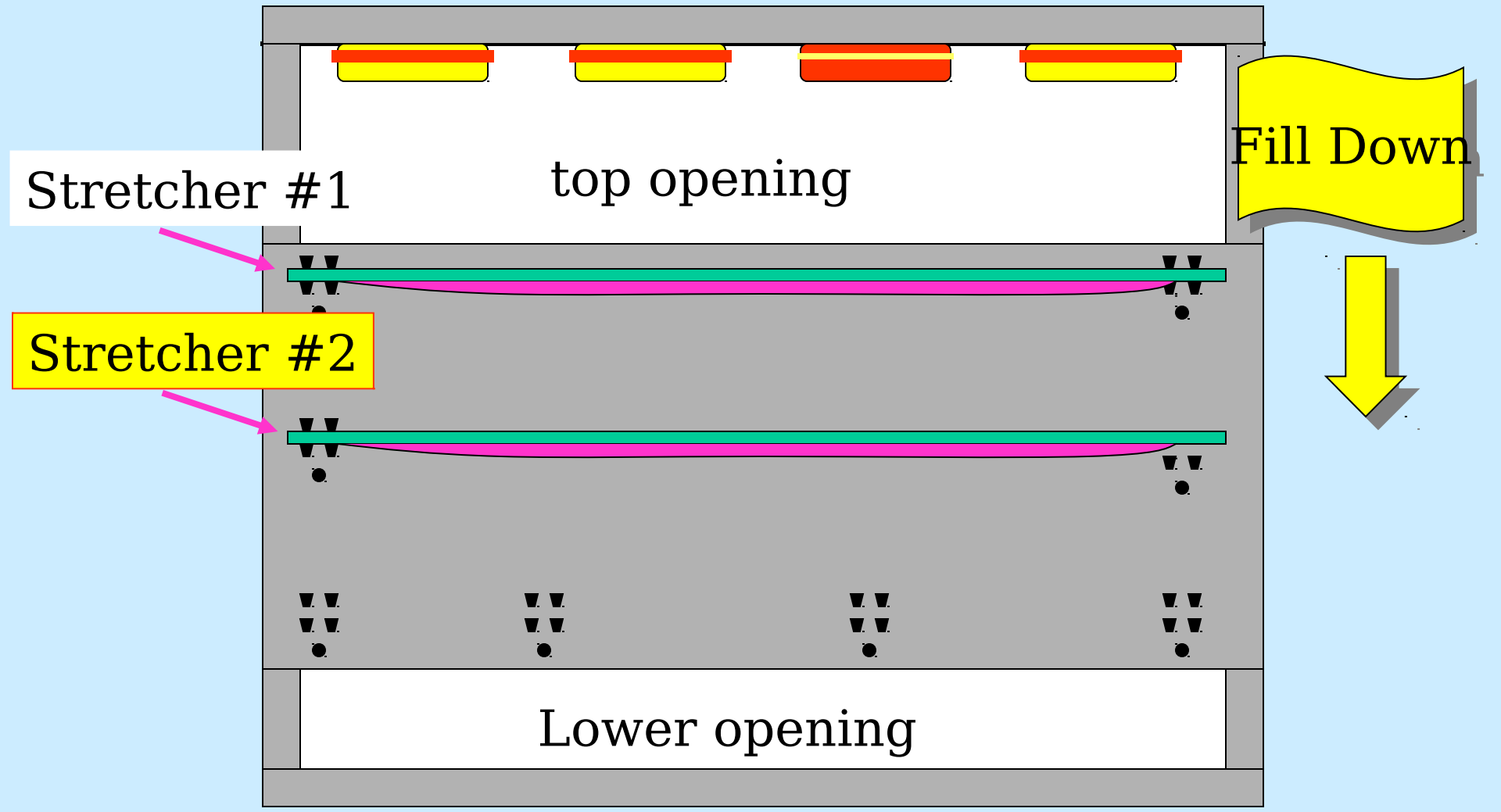

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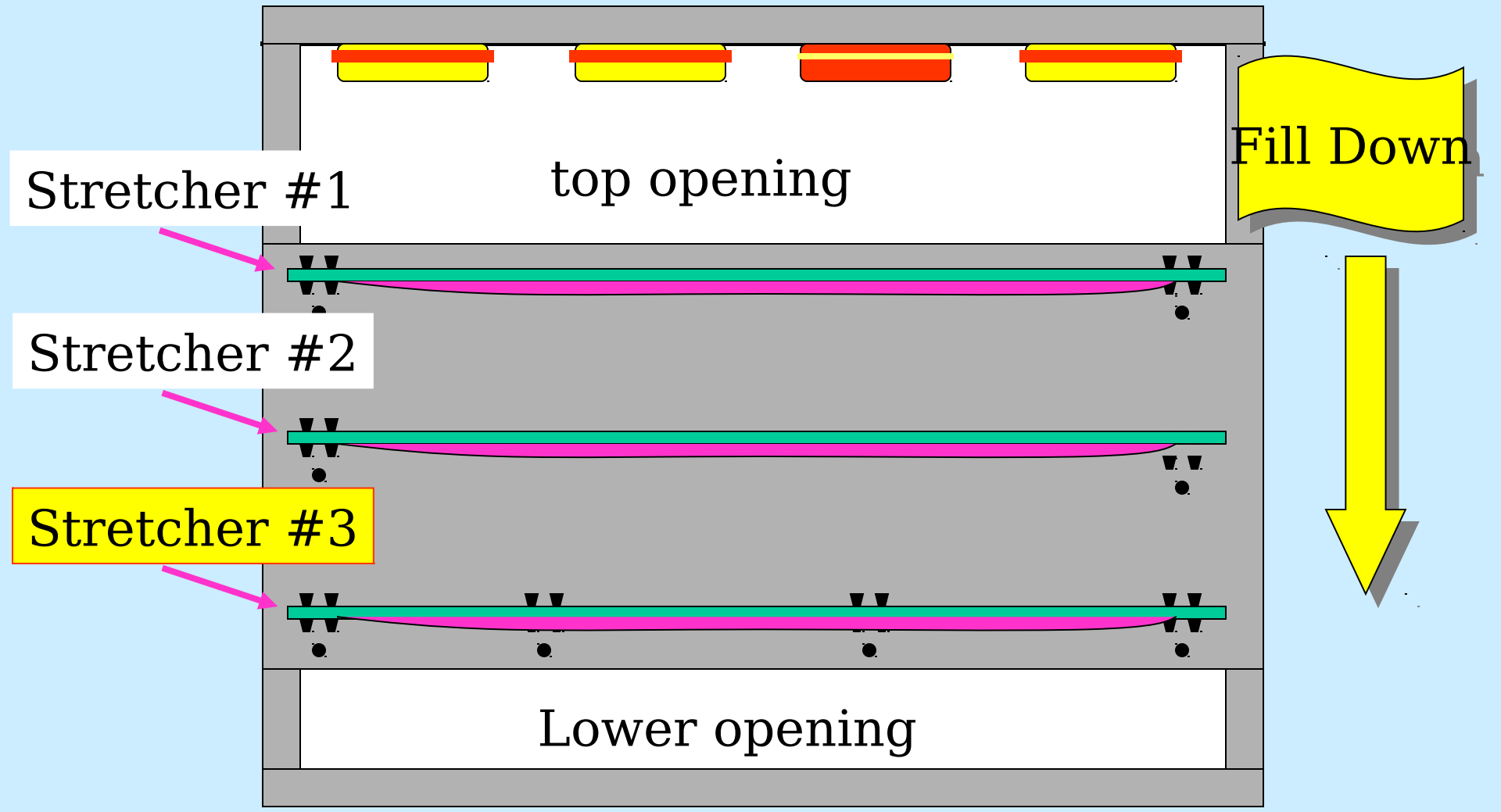
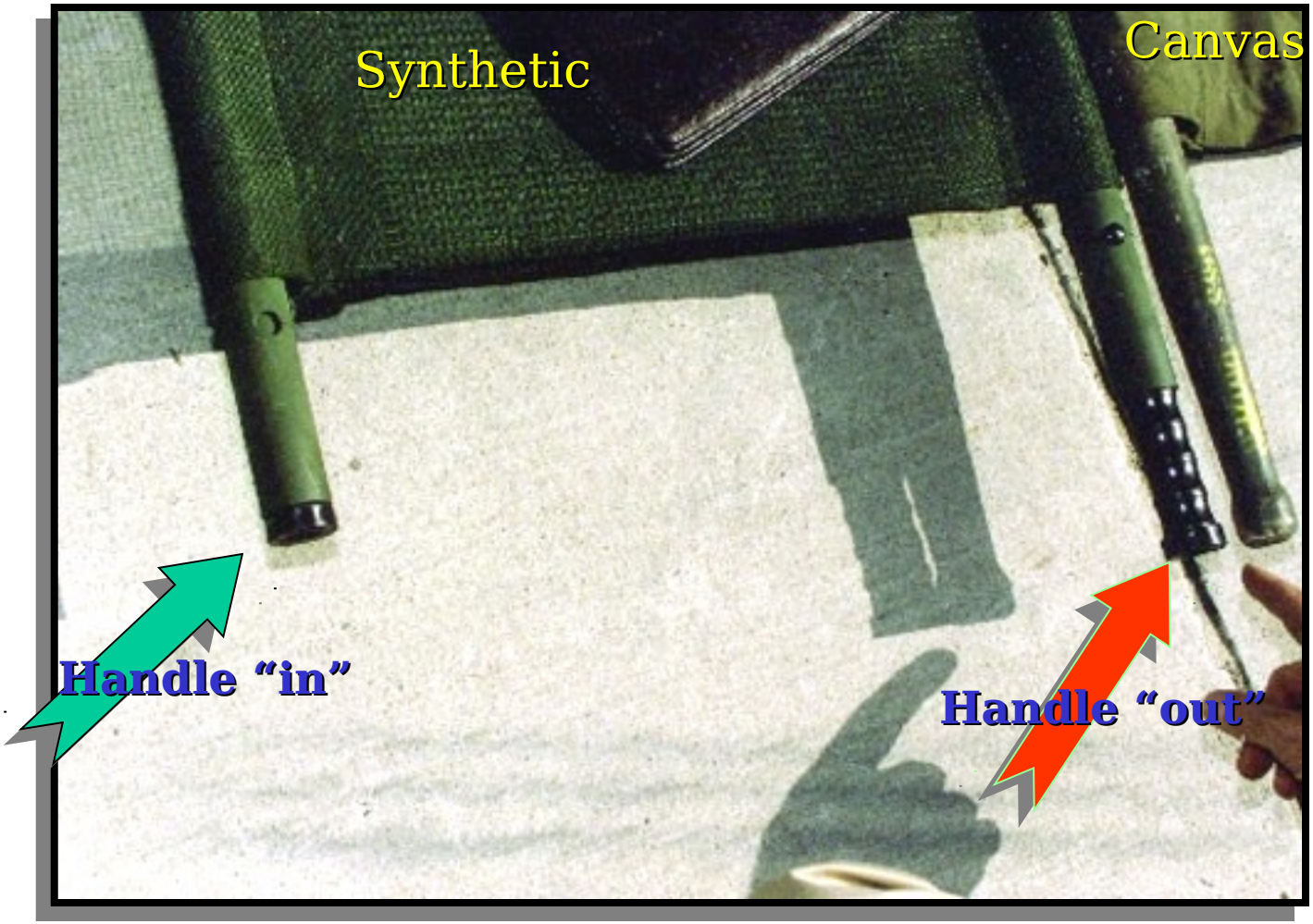
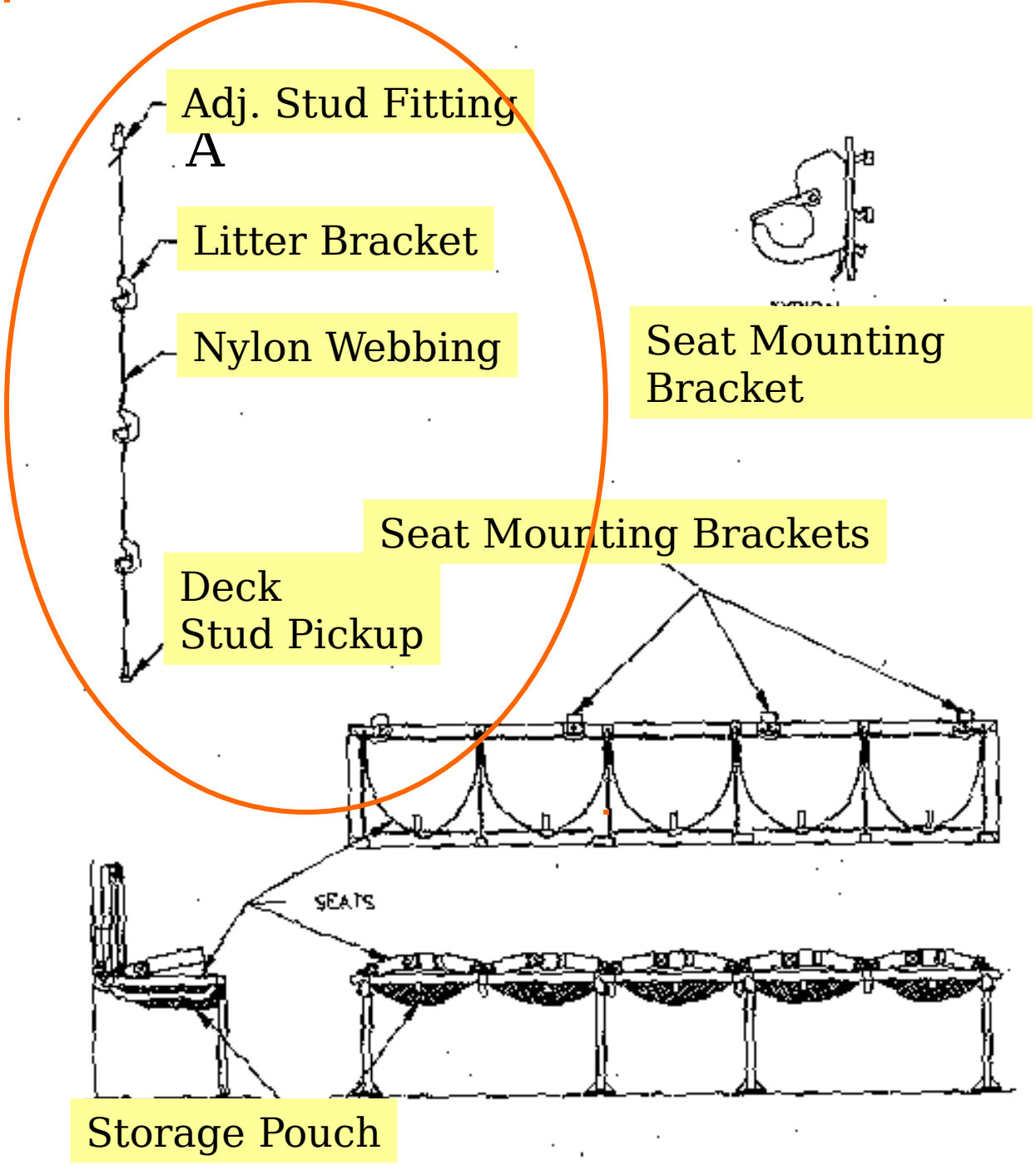


New Stretchers -- room between handgrips

Comparison of Stretchers




Adj. Stud Fitting
A
Litter Bracket
Nylon Webbing
Deck
Stud Pickup
Seat Mounting
Bracket
Seat Mounting Brackets
SEATS
Storage Pouch

tretcher ***Adjustable*** Vertical Load-bearing Straps
Securing to deck

(Note Deck Non-skid)

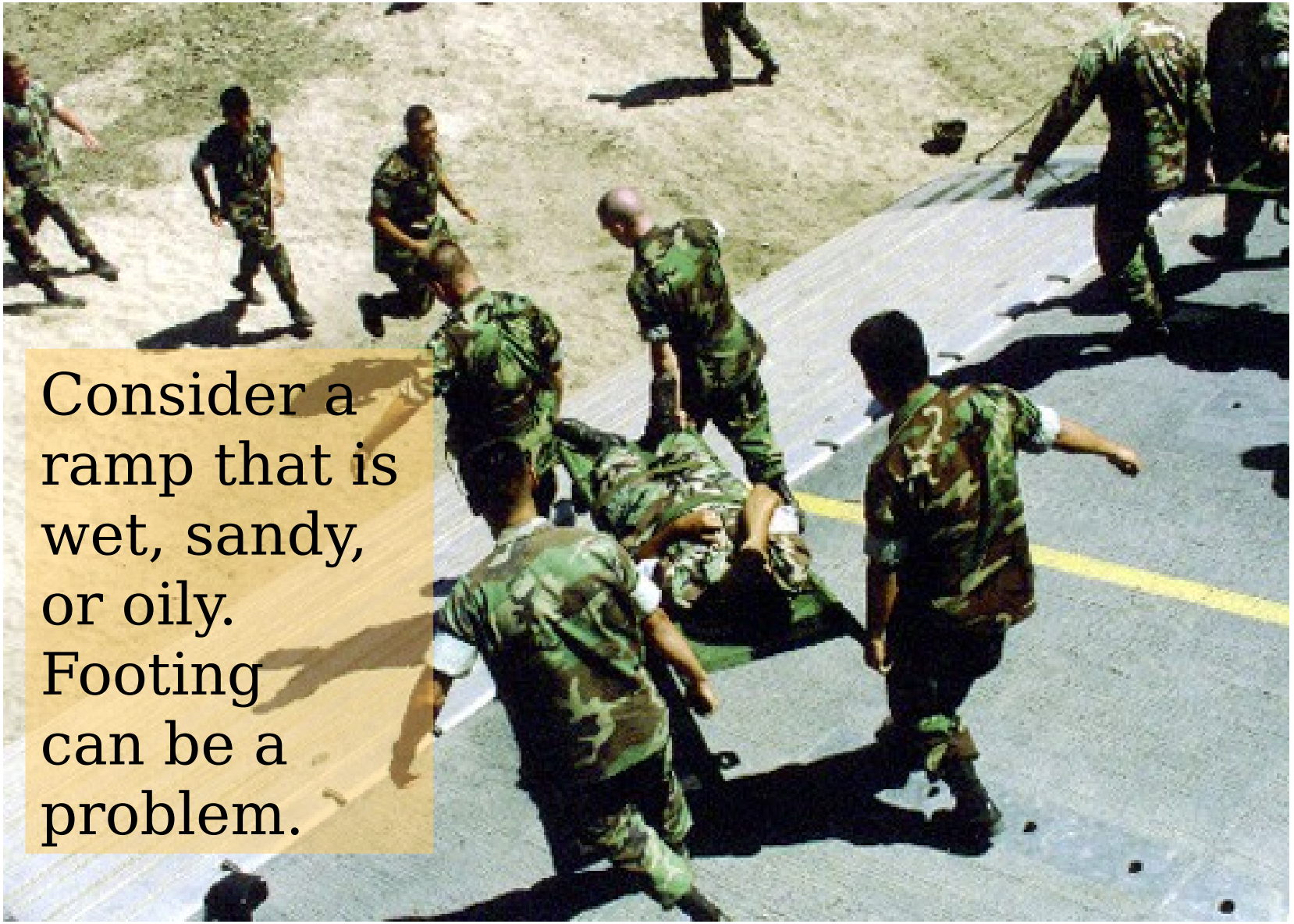
Adjustable Load-bearing Strap

View from Bottom Stretcher

Negotiating the Ramp . . .
Noise, fumes, sand, FOD, confusion

Turning on the ramp

Negotiating the Ramp



Struggling through the sand

Proper stretcher bearing

Bulkhead clamps can be difficult

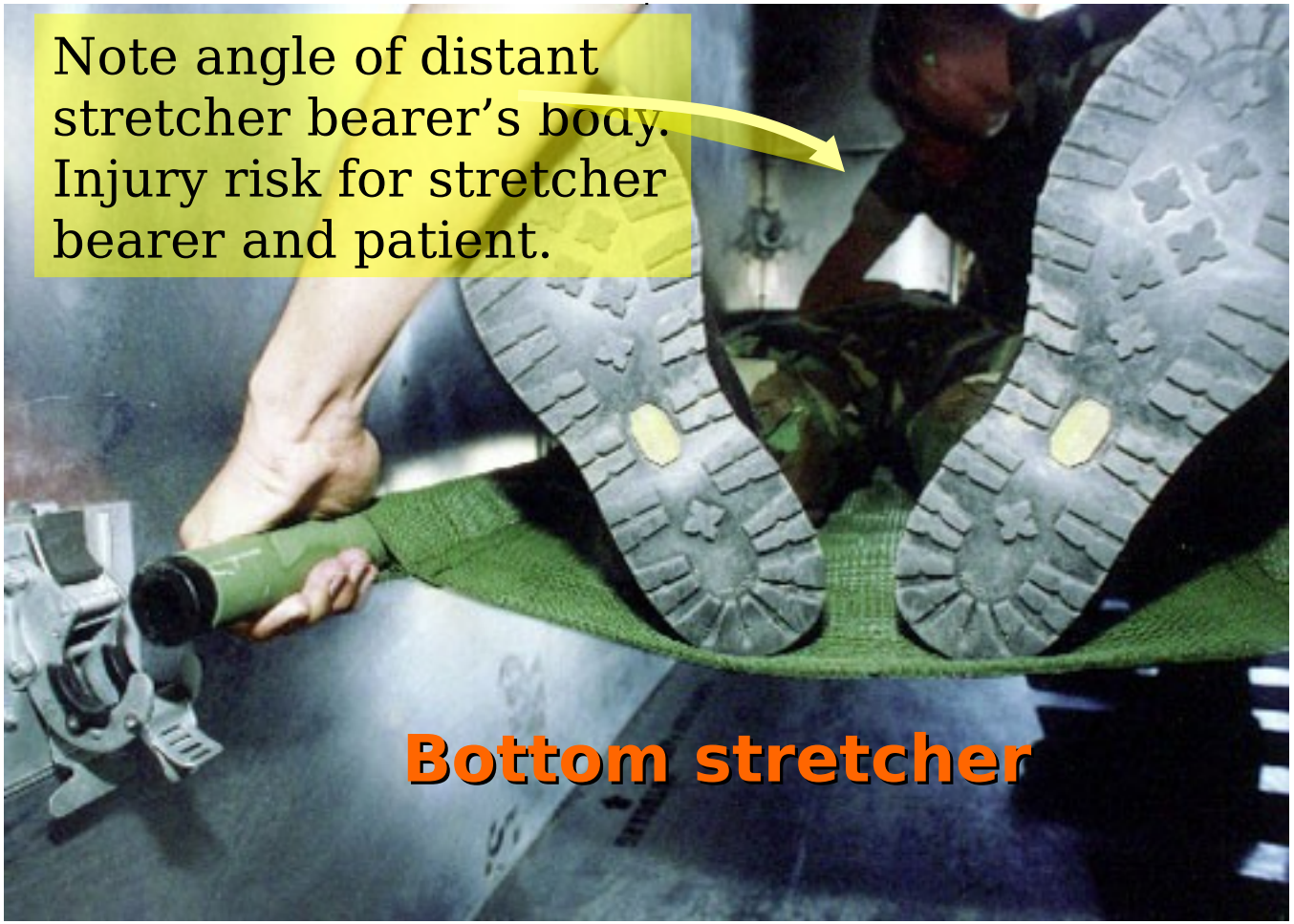
Squeezing through hatch

Squeezing in through hatch

Squeezing out through hatch

Snagging on load-bearing strap

Problem:
Inside-bulkhead clamp



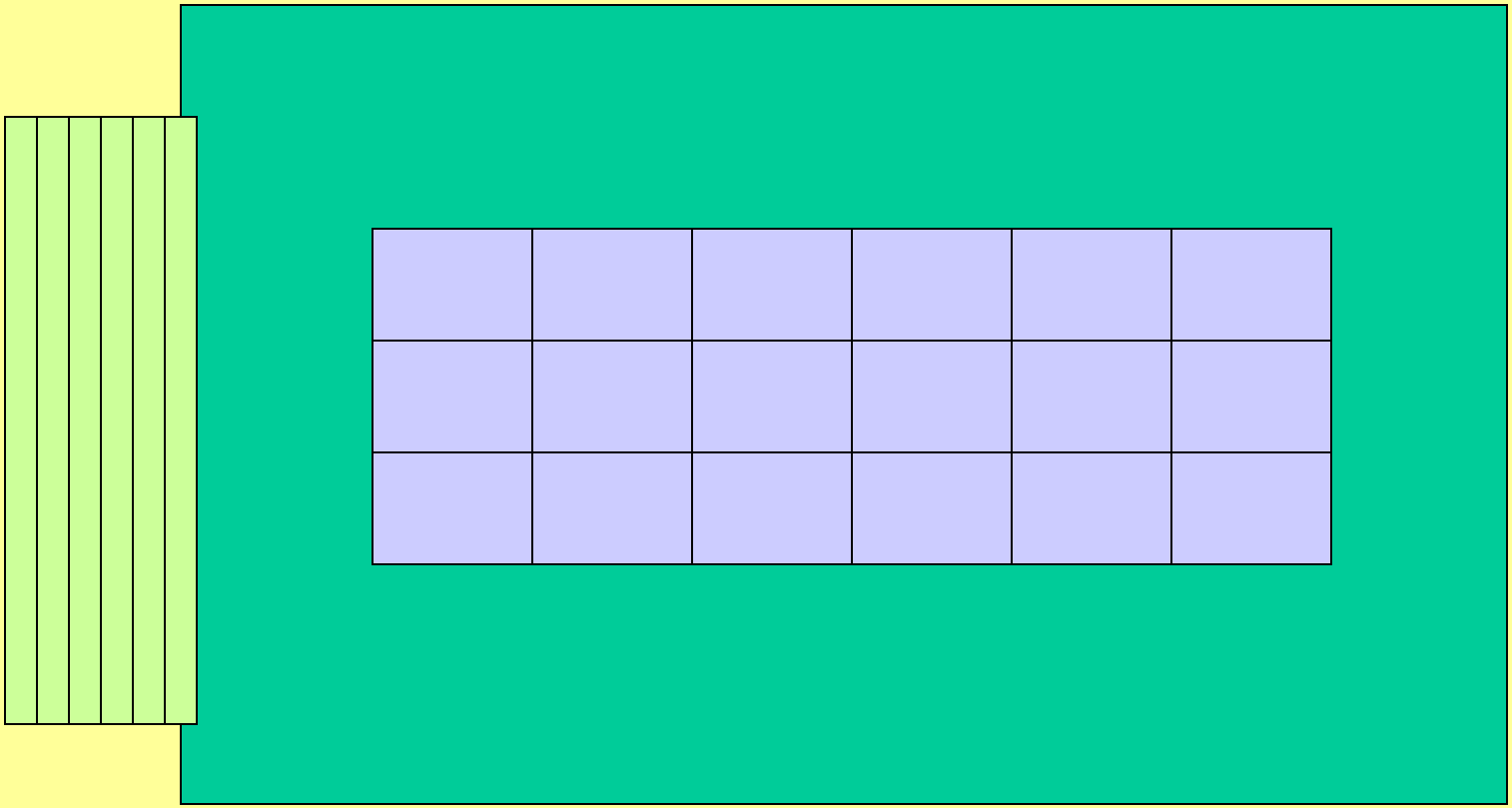
Solution:
Five-man team loading bottom stretcher

* Marine directly under stretcher
* Supports and controls inside pole
* Secures pole into wall bracket

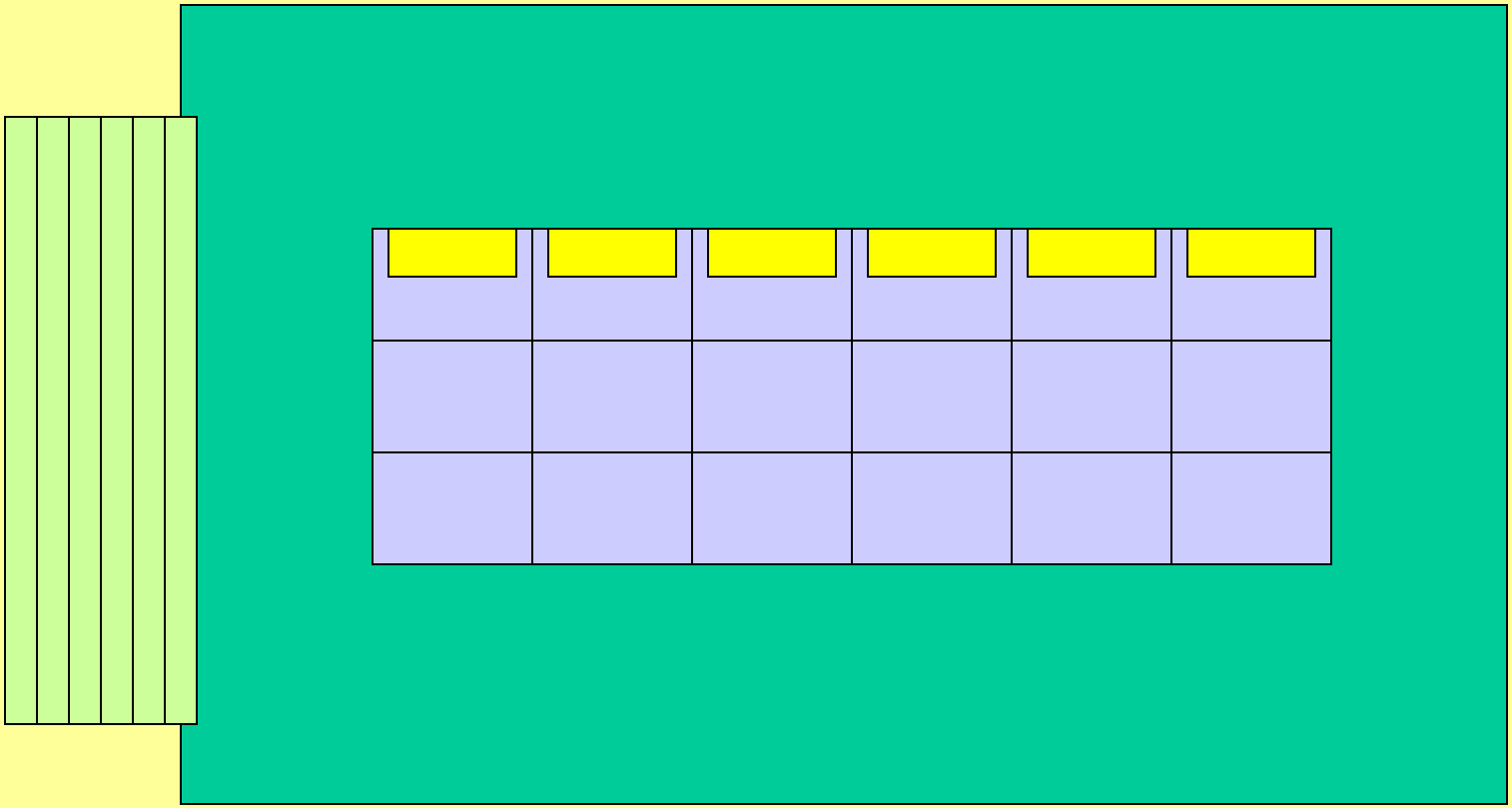
Careful . . .
Difficulty with strap hardware . . .

Haste creates casualties . . .

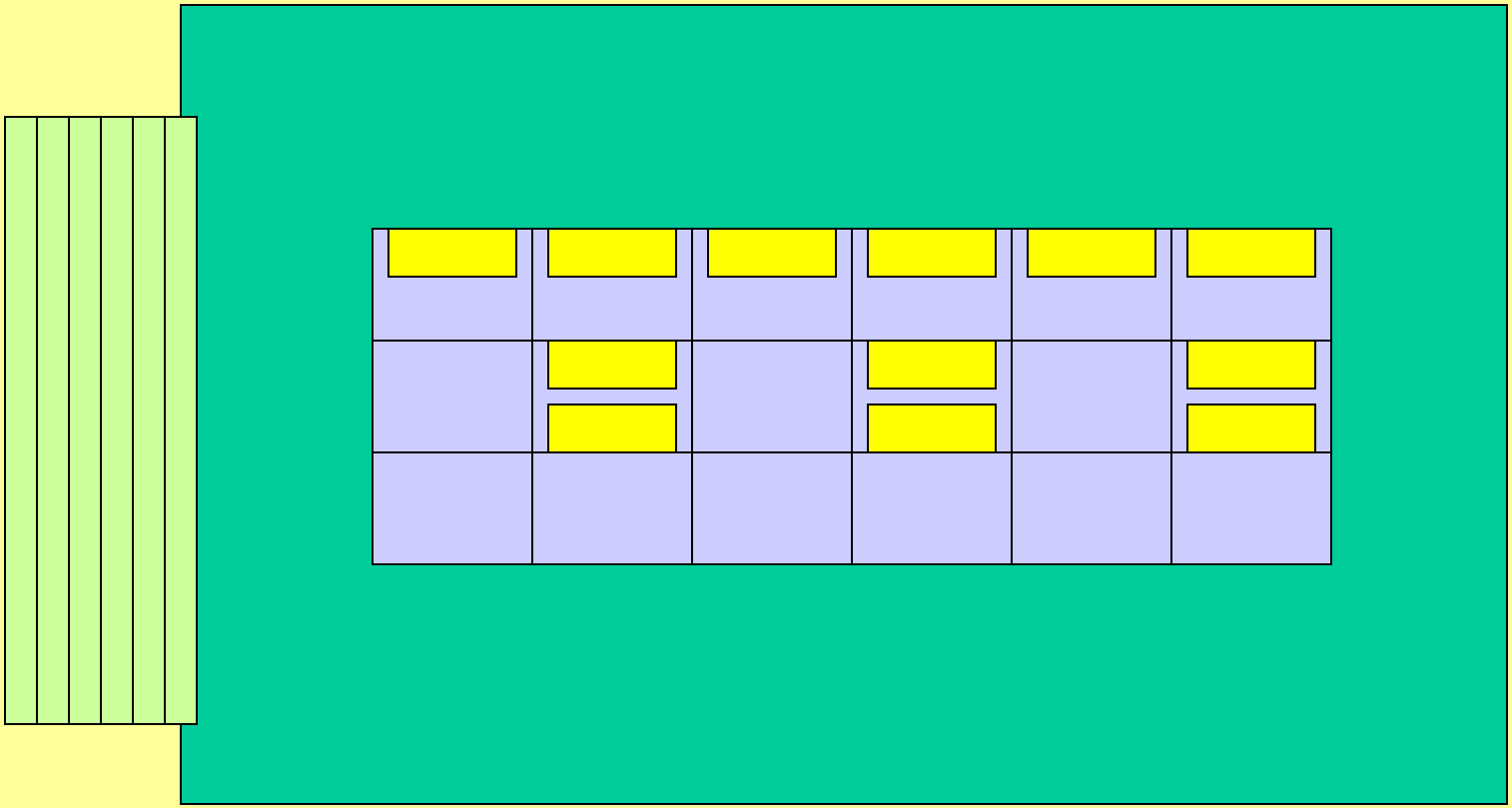
Starting with a bare PTM, we tried various configuations



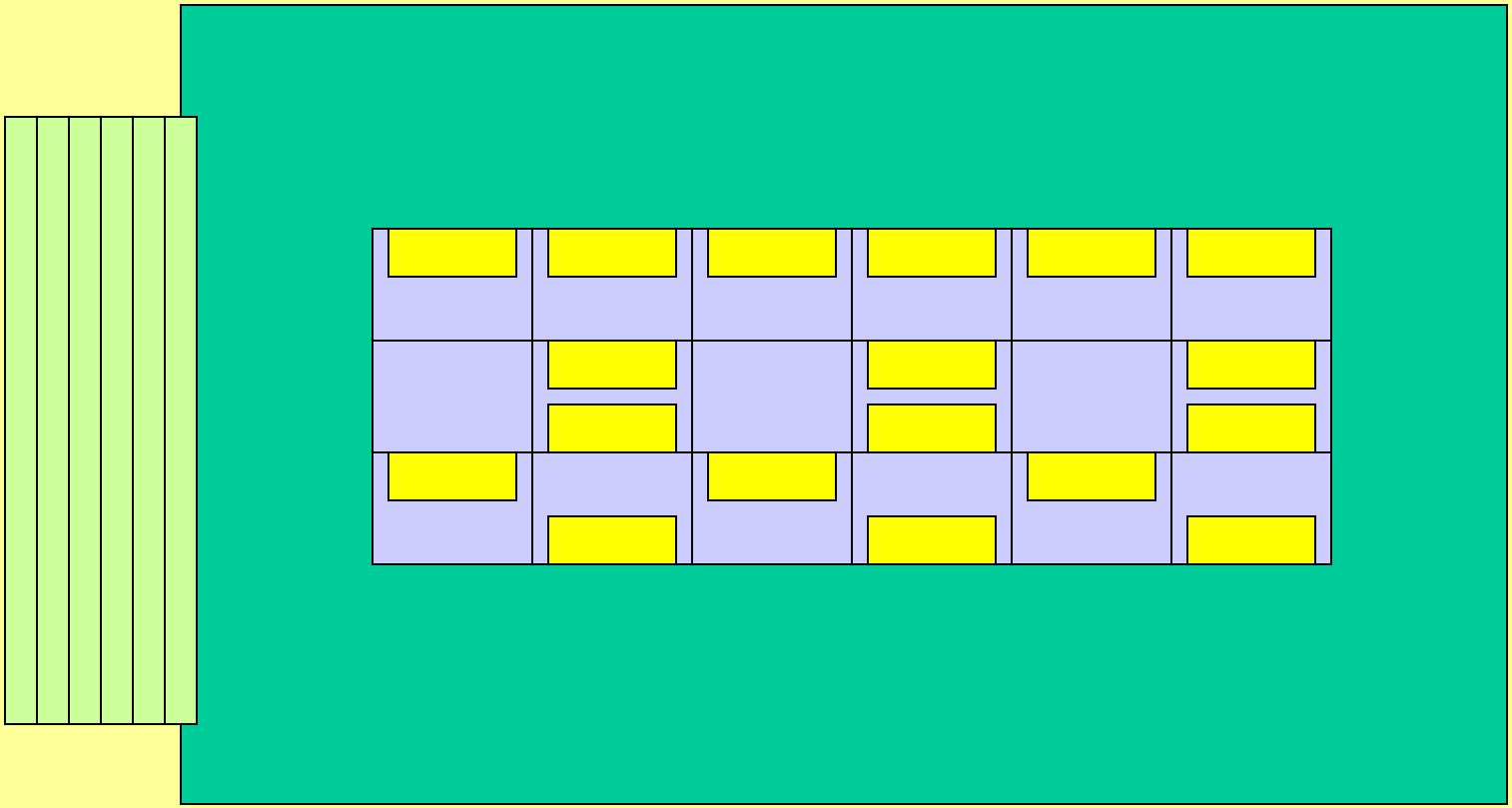
Stretchers all in line ...



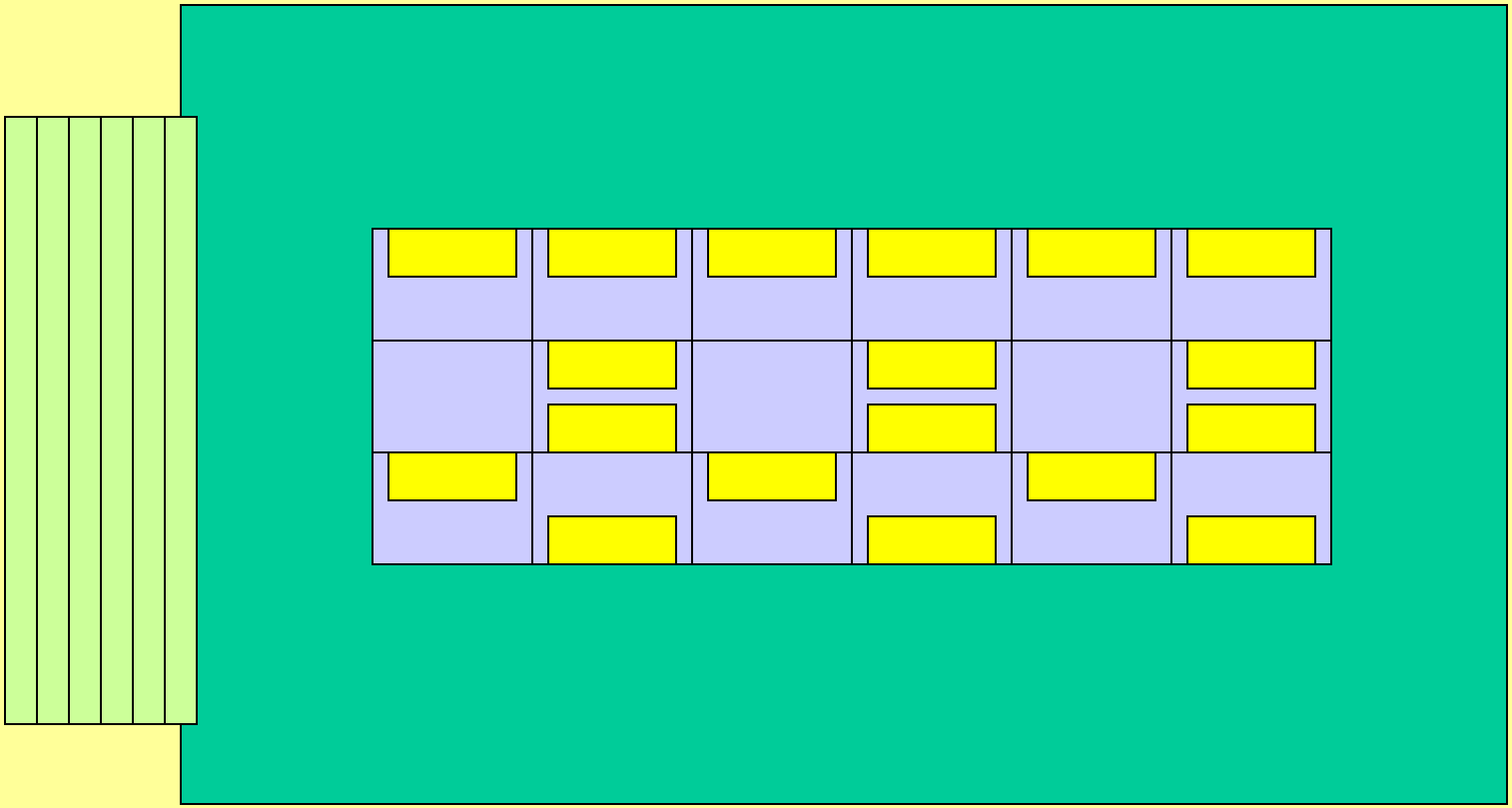
Stretchers bunched together . . .



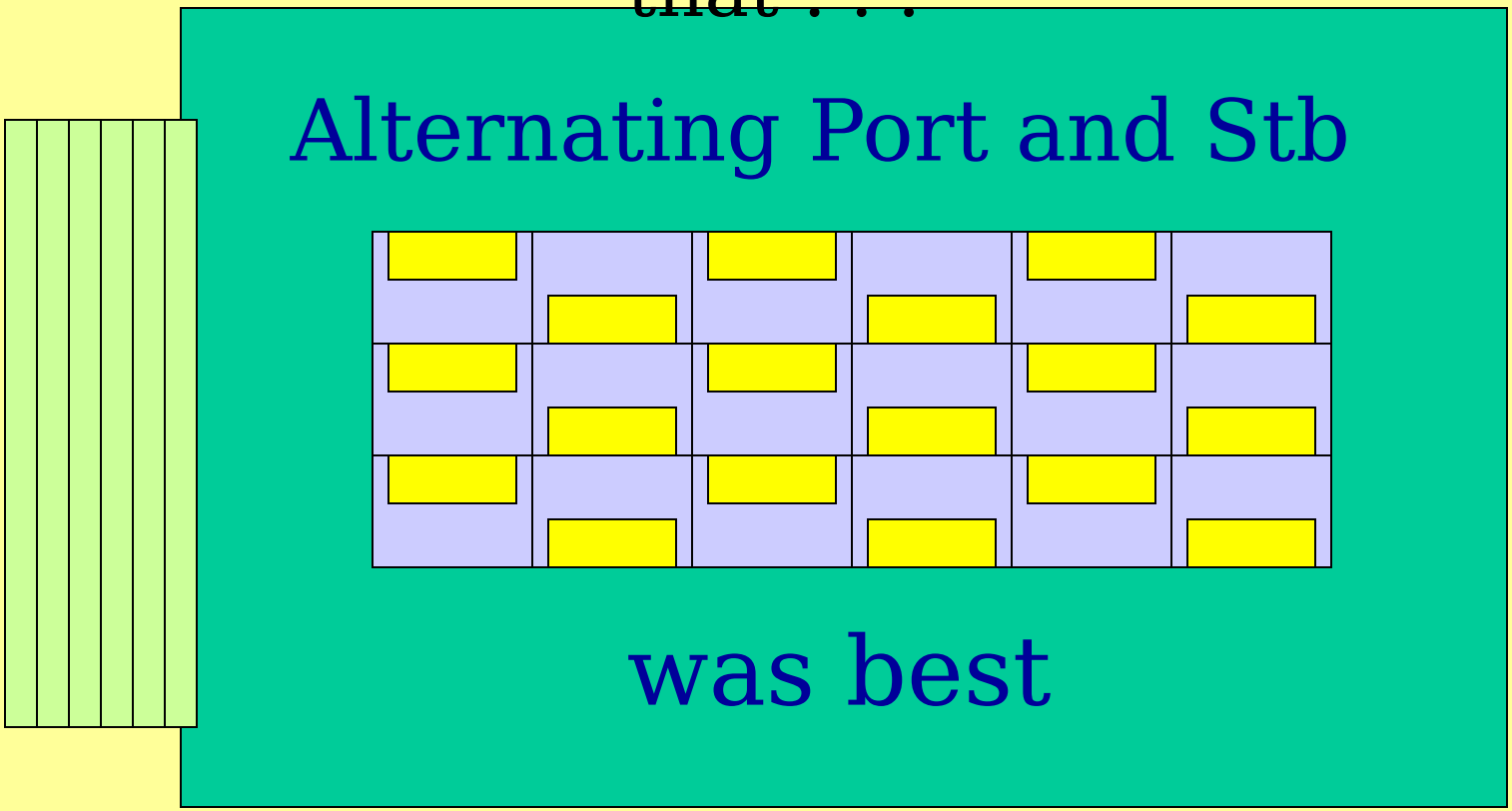
Stretchers alternating Port and Starboard ...



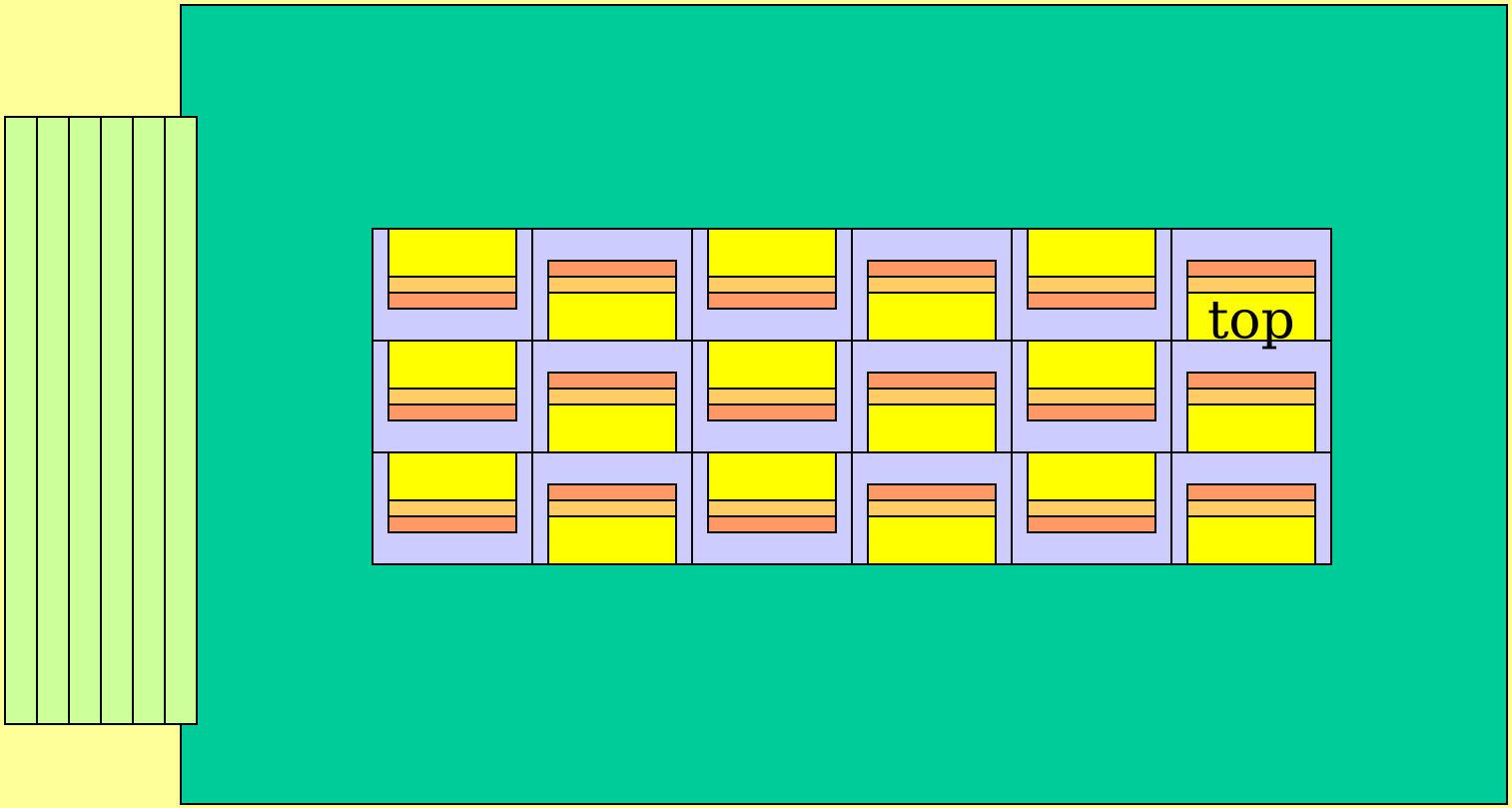
Competition drove innovation ...



Consensus among stretcher bearers, casualty actors, and observer was that . . .



Time to load 54 litters from the beach from ramp down to ramp up . . .



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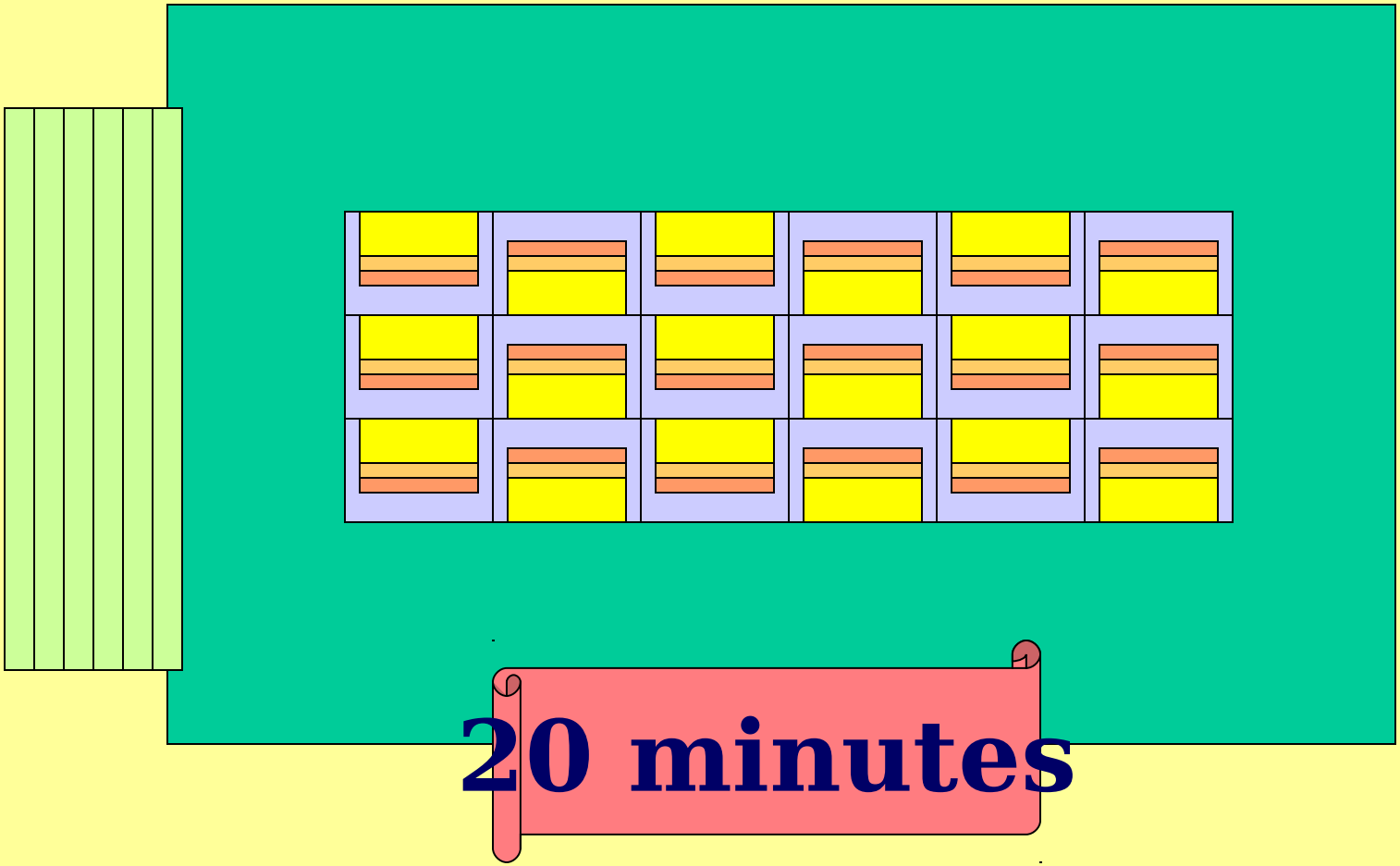


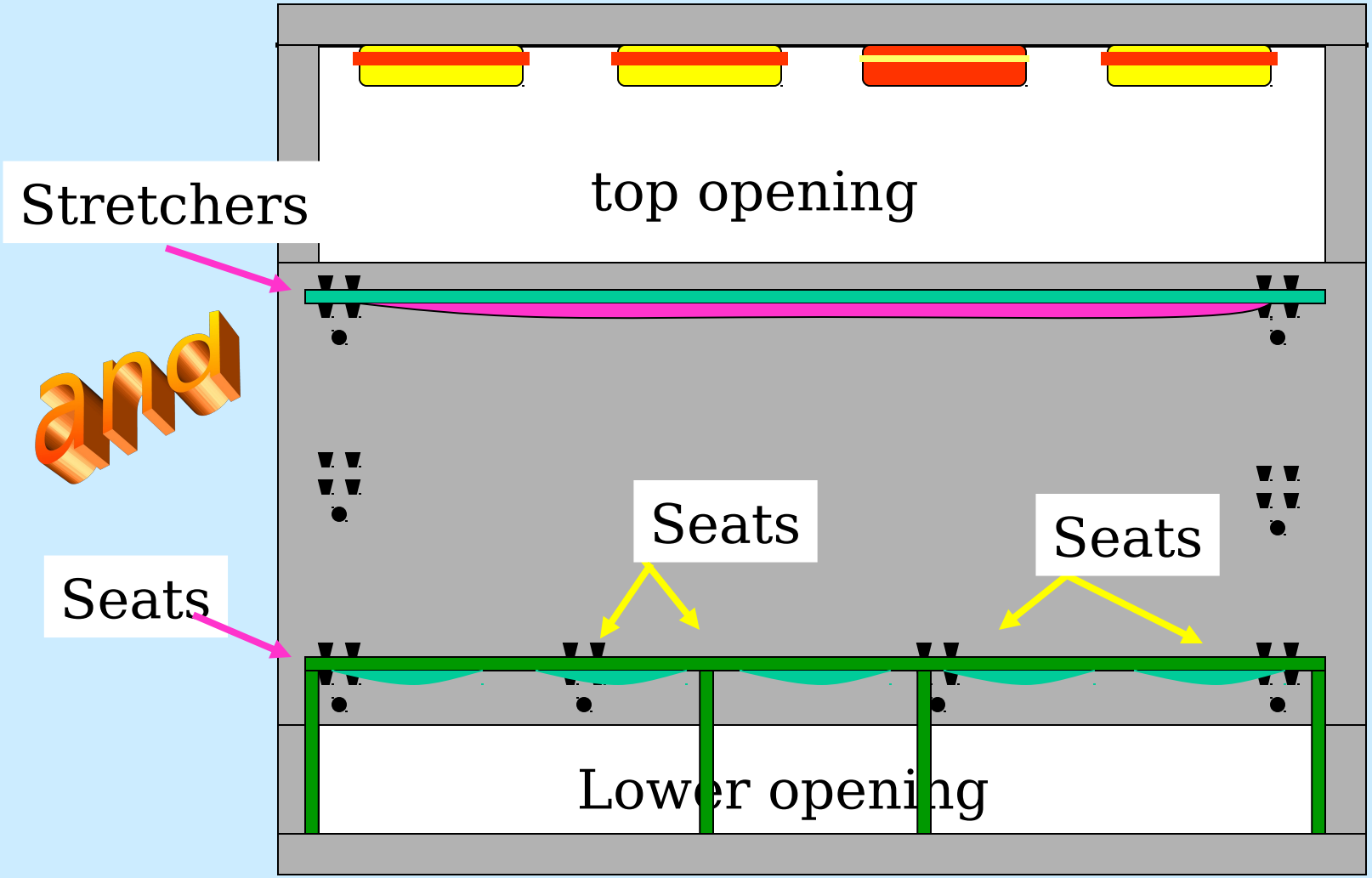
20 minutes

A beehive of activity.

An Additional Capability . . .

Increased storage if stretchers routinely deployed

Interior Panel



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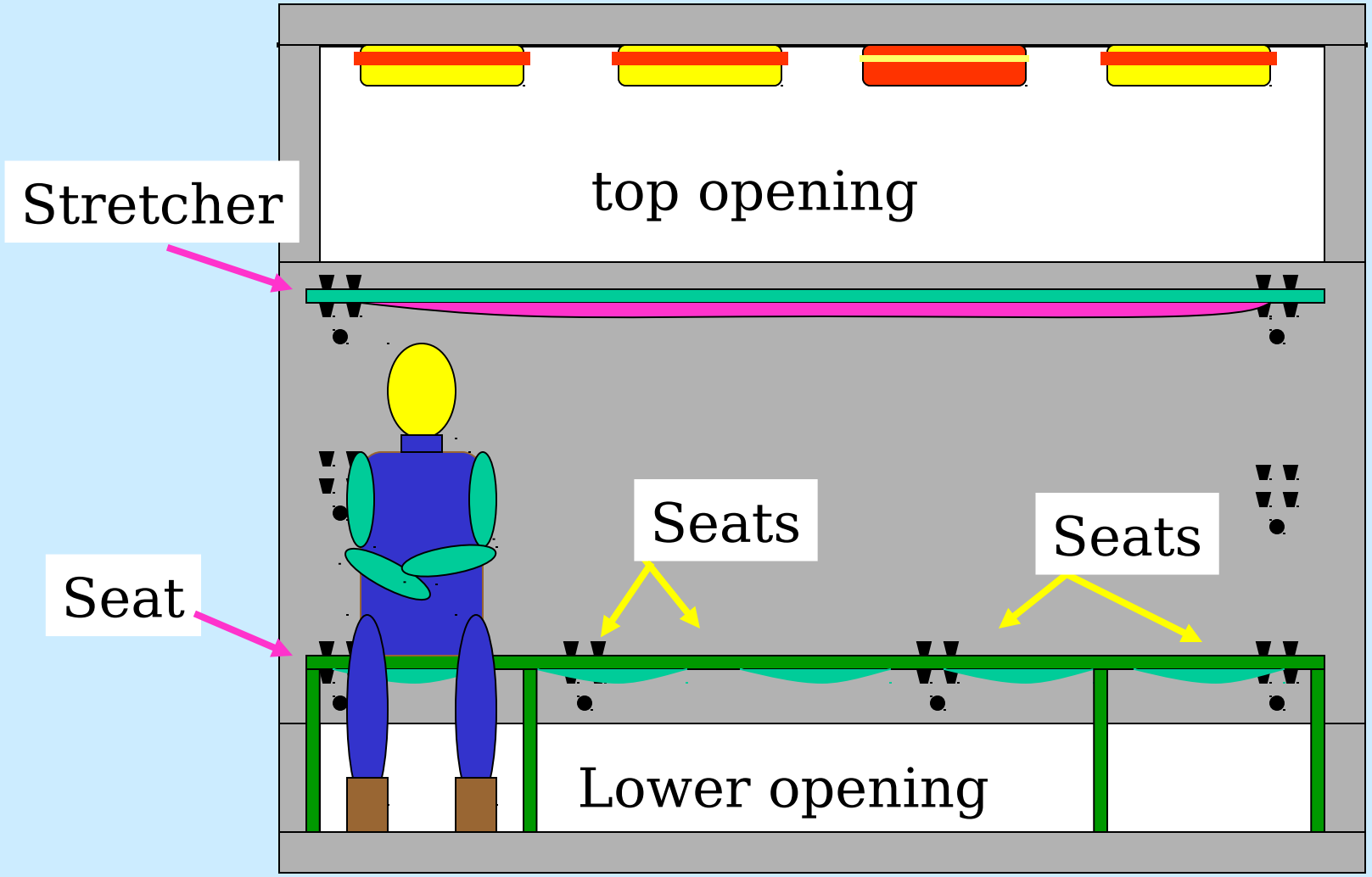

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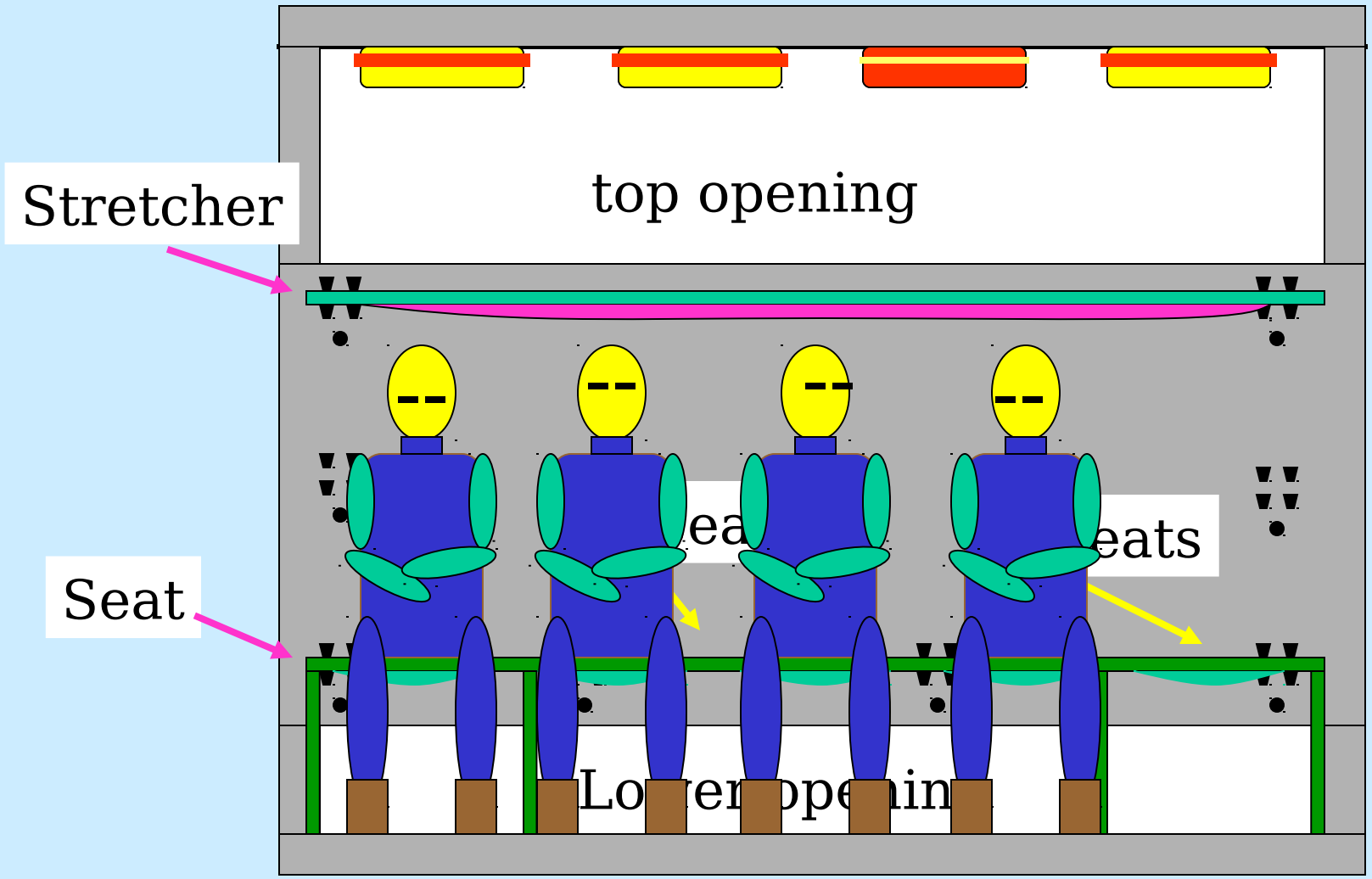
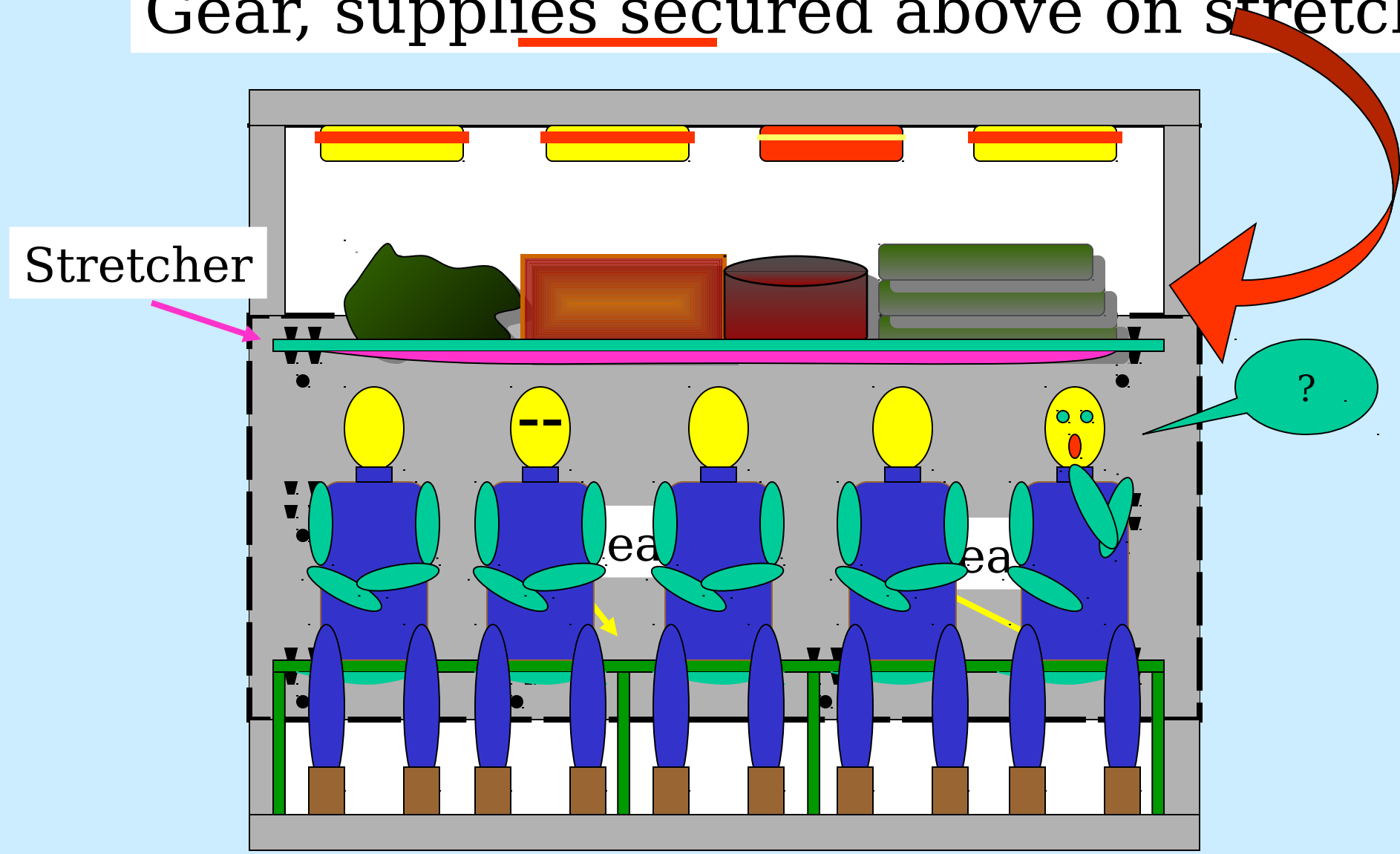


Gear, supplies secured above on stretch



Environmental Issues

- Noise -- 104-105 db in PTM
- Ventilation -- adequate
- Motion -- stretchers quite comfortable (much more so than seats)
- Overhead lighting inadequate for patient evaluation

What care can be expected enroute?

- Attendance to patient safety
- Evaluation for airway obstruction
- Control of bleeding (pressure dressing, tourniquet)
- Replacement of empty IV bags
- Environmental care -- blankets, hearing protection

WYBIWYG

(what you bring is what you get)

What other PTM modifications are needed for casualty support?

WYBIWYG

- **Equipment not intrinsic to PTM**
  - Adequate Lighting, Communication between HMs, hearing protection for casualties, safety straps
  - IV attachments, suction, oxygen
- **Supplies**
  - dressings, gloves, IV solution, tourniquets, blankets, extrinsic warming equipment, sanitation gear

WYBIWYG

- **Personnel**
  - Corpsmen: 1 per 9 litter casualties (two per column)
- **CASUALTY CARE CREATES *trash*.**

Medical must be cognizant of FOD and build in FOD avoidance measures!

Resolved Issues

- Loading can be completed efficiently and in a reasonable time
- Best configuration of litters
- Training/safety issues for stretcher bearers
- Items needed for casualty care enroute

Unresolved Issues

- Who will supply the medical support for PTM medevac missions?
- Do PTM stretchers actually deploy with ARGs? (noted in SEAOP Vol VI and carried in storage container other than the PTM ISO)
- Training on PTM capabilities and limitations for medical personnel and ARG mission planners

Recommendation

- If ARG-MEU decides to deploy with PTM, the medical capability of the PTM should be ***trained and rehearsed***.

Recommendation

- For example, consider a situation with 120 NEOs.
  - 30 become litter casualties because of injury or illness
  - 20 walking wounded
  - 70 NEOs
- All could arrive on the CRTS simultaneously by PTM
  - tests the PTM personnel and casualty evac planning, equipment and capability
  - tests the NEO bill
  - tests the Mass Casualty bill

End of day reflections